

## Abstract

The present invention relates to an apparatus for transforming digital TV broadcasting signals into digital  
5 radio broadcasting signals and a method thereof. The apparatus includes: a transport stream generator for transforming TV broadcasting signals outputted from outside into digital TV broadcasting transport streams; a broadcasting transport format transformer for generating  
10 digital radio broadcasting transport streams by transforming the digital TV broadcasting transport streams in conformity to a digital radio broadcasting transport protocol based on a radio broadcasting schedule; a digital radio broadcasting multiplexer for multiplexing the  
15 generated digital radio broadcasting transport streams generated in the broadcasting transport format transformer; a modulating/up-converting unit for modulating the multiplexed digital radio broadcasting transport streams in a modulation method of digital radio  
20 broadcasting and up-converting frequencies of the modulated radio broadcasting signals into radio frequency (RF) signals; and a high-power amplifier for amplifying and transmitting the up-converted RF signals through a transmitting antenna.